



US Environmental Protection Agency Office of Pesticide Programs

BIOPESTICIDES REGISTRATION ACTION DOCUMENT

**4-(or 5)Chloro-2-Methylcyclohexanecarboxylic Acid,
1,1-Dimethyl Ester □ (Trimedlure) (PC Code 112603)**

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(Trimedlure)
(PC Code 112603)**

**U.S. Environmental Protection Agency
Office of Pesticide Programs
Biopesticides and Pollution Prevention Division
4-(or 5)Chloro-2-Methylcyclohexanecarboxylic Acid, 1,1-Dimethyl Ester
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I. EXECUTIVE SUMMARY

A. IDENTITY

The new technical grade active ingredient (TGAI) 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester (commonly known as Trimedlure), is a synthetic arthropod pheromone, to be used in the manufacturing of end-use pheromone products. The manufacturing use product, Trimedlure Technical Grade, contains 95 % of 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester. The product chemistry data submitted by the registrant satisfies the requirement for product identity.

B. USE/USAGE

Trimedlure Technical Grade will be incorporated into end-use products intended for agricultural use for the control of the insect pest, Mediterranean Fruit Fly. The pheromone will be used in traps and lures to attract fruit flies in infested fruits and nuts orchards and vegetable crops.

C. RISK ASSESSMENT

Trimedlure is a synthetic arthropod pheromone that will be used in retrievable, polymeric matrix dispensers in conjunction with traps and lure devices. The Agency recognizes that this use will not only limit the possibility of human exposure but also, in conjunction with the low toxicity of this compound will limit the likelihood of having any negative adverse effect resulting from the use of Trimedlure. Appropriate precautionary labeling of the end-use products will minimize exposure and mitigate risk to aquatic organisms. As a result, no toxicology or environmental fate and effects data beyond acute toxicity data were deemed necessary for registration, and were therefore waived.

The Agency is making the risk management decision regarding the registration of Trimedlure Technical Pheromone, based on the known low toxicity of arthropod pheromones, the low application rate for end-use products, and the precautionary labeling which minimizes exposure and mitigates risks. The Agency believes that pheromone products containing Trimedlure, can be used without causing unreasonable adverse effects to humans or the environment.

Moreover, if trimedlure is the sole active ingredient in the traps and lures, these products are exempt from registration in accordance with 40 CFR part 152.25 (b). In addition, 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester is exempt from the requirement of tolerance due to its status as an arthropod pheromone when used as described in the exemption (40 CFR 180.1124).

Based on the negligible risk concerns and a history of safe use of arthropod pheromones in general, Trimedlure meets the criteria as specified in §3(c)(5) of FIFRA as amended, and is thus eligible for unconditional registration. No additional data are needed.

This document presents the Agency's decision regarding the registration of the new active ingredient, 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester, commonly known as Trimedlure.

D. DATA GAPS / LABELING RESTRICTIONS

There are no data gaps. The end-use product may only be formulated into retrievably sized polymeric-matrix removable dispensers to be exempt from FIFRA, as described in the 40 CFR 152.25(b), and from the requirement of tolerance (40 CFR 180.1124). Precautionary label language for use of products containing Trimedlure and disposal of wastes mitigates risks to aquatic organisms.

II. OVERVIEW

A. ACTIVE INGREDIENT OVERVIEW

Common Name:	Trimedlure
Chemical Name:	4 (or 5) - Chloro-2-methylcyclohexanecarboxylic acid, 1,1-dimethylethyl ester
Chemical Formula:	C ₁₂ H ₂₁ ClO ₂
Chemical Family:	Aliphatic carboxylic acid esters
Trade and Other Names:	Trimedlure, Trimedlure Technical Grade
CAS Registry Number:	12002-53-8
OPP Chemical Code:	112603
Basic Manufacturer:	ISP Fine Chemicals Inc. 1979 Atlas Street Columbus, OH 43228

B. USE PROFILE

The following is information on the proposed uses with an overview of use sites and application methods.

Type of Pesticide: Pheromone (insect attractant)

Use Sites: Trimedlure Technical Grade Product will be used for incorporation into end-use products for use in traps in polymeric matrix dispensers, to attract and kill fruit fly in infested fruits and nuts orchards and vegetable crops.

Target Pests: Mediterranean Fruit Fly (*Ceratitis capitata*)

Formulation Types: Liquid

Method and Rates of Application: The TGAI could be used in polymeric-matrix removable dispensers placed in traps and lures.

Use Practice Limitations: "For Manufacturing Use Only"

"For Use in Manufacturing or Formulating Registered Pesticide Products." Trimedlure must be must be the sole active ingredient in traps and lures, in order to be exempt from registration under FIFRA, in accordance with 40 CFR 152.25(b). The TGAI must be formulated into polymeric-matrix removable dispensers as described in the 40 CFR 180.1124.

C. ESTIMATED USAGE

None used yet since this will be the first registered product.

D. DATA REQUIREMENTS

The Agency has previously recognized the low toxicity and low expected exposure of arthropod pheromones in point source applications (i.e., solid matrix dispensers). As a result, no toxicology or environmental fate and effects data, beyond acute toxicity data, were deemed necessary for the registration of Trimedlure Technical Grade, and were therefore waived. In addition to waiver requests, the applicant has submitted acute toxicity studies which were accepted and reviewed. Product analysis data requirements were adequately satisfied.

The data required for this registration under Section 3(c)(5) of FIFRA have been reviewed by the Biopesticides and Pollution Prevention Division (BPPD). Based on the submitted information, the Agency foresees no unreasonable adverse effects to human health and the environment from the use of this pheromone, and recommends an unconditional registration.

E REGULATORY HISTORY

On August 24, 1999, the Agency received an application from ISP Fine Chemicals Inc. to register Trimedlure Technical Grade, containing 95 % of 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester. A notice of receipt of the application for registration for 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester as new active ingredient was published in the Federal Register on March 02, 2000 (65 FR 11310), with a 30 day comment period. No comments were received as a result of this publication.

F. CLASSIFICATION

Because Trimedlure is a synthetic compound that mimics naturally occurring substances of insect origin and functions by a non-toxic mode of action on its target pest, this compound is classified as a biochemical pesticide.

G. FOOD CLEARANCES/TOLERANCES

Arthropod pheromones such as Trimedlure, are exempt from the requirements of a food tolerance for residues used in retrievable, polymeric matrix dispensers, and at a rate not to exceed 150 grams active ingredient per acre per year in accordance with good agricultural practices (40 CFR 180.1124).

III. SCIENCE ASSESSMENT

A. PHYSICAL/CHEMICAL PROPERTIES ASSESSMENT

All product chemistry data requirements for Trimedlure Technical Grade pheromone are satisfied.

1. Product Identity and Mode of Action

a. Product Identity:

The new active ingredient, 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester, is a technical grade synthetic pheromone. The TGAI is water-white liquid with a fruity odor. The product chemistry data submitted by the registrant satisfies the requirements for product identity.

b. Mode of Action:

The synthetic chemical, 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester, mimics the Mediterranean Fruit Fly pheromone and attracts the insects to the traps.

2. Food Clearances/Tolerances

Currently, a tolerance exemption exists for arthropod pheromones such as 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester when used in retrievably sized polymeric matrix dispensers, and at a rate not to exceed 150 grams active ingredient per acre per year in accordance with good agricultural practices (40 CFR 180.1124). Thus, any future end-use products containing Trimedlure must be used in retrievably sized polymeric matrix dispensers and used at a rate not to exceed 150 grams active ingredient per acre per year in order to qualify for the arthropod pheromone tolerance exemption (40 CFR 180.1124).

3. Physical And Chemical Properties Assessment

The physical and chemical characteristics of the TGAI were submitted in support registration. These are summarized in Table I.

Table I. Product Chemistry Data:

4-(or 5)Chloro-2-Methylcyclohexanecarboxylic acid, 1-1-Dimethyl Ester
 Biopesticides Registration Action Document

GUIDELINE NO.	STUDY	RESULTS	MRID NO.
151B-10 151B-11 151B-12	Product identity; Manufacturing process; Discussion of formulation of unintentional ingredients	Submitted data satisfies the data requirements for product identity, manufacturing process, and discussion of formation of impurities	449063-01
151B-13	Analysis of samples	Submitted data satisfy the data requirements for analysis of samples	449063-02
151B-15	Certification of limits	Limits listed in the CSF are adequate	449063-02
151B-16	Analytical Method	Acceptable	449063-02
151B-17	PHYSICAL / CHEMICAL PROPERTIES of TGAI		
151B-17a	Color	Water-white at room temperature	449063-03
151B-17b	Physical State	Liquid	449063-03
151B-17c	Odor	Fruity	449063-03
151B-17d	Melting point	Not Applicable (product is liquid)	
151B-17e	Boiling point	104 to 134° C by distillation method	449063-03
151B-17f	Density/Specific gravity	1.00 g/mL / 0.018	449063-03
151B-17g	Solubility	<1% by weight	449063-03
151B-17h	Vapor Pressure	Undetermined	449063-03
151B-17i	pH	Not applicable (compound not soluble)	
151B-17j	Stability	Stable under normal conditions	449063-03

GUIDELINE NO.	STUDY	RESULTS	MRID NO.
151B-17k	Flammability	Flash point at 37°C	449063-03
151B-17l	Storage stability	Stable	449063-03
151B-17m	Viscosity	36 cps	449063-03
151B-17n	Miscibility	Not applicable	
151B-17o	Corrosion characteristics	Not corrosive	449063-03

B. HUMAN HEALTH ASSESSMENT

1. Toxicology Assessment

The active ingredient, 4- (or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester, is an arthropod pheromone for which the Agency recognizes the low toxicity and negligible expected exposure, when used in polymeric dispensers. As a result, all toxicology data except acute toxicity data and all environmental fate and effects data were waived for this registration.

Moreover, the registrant submitted a technical journal article (*Beroza, M. et al. 1975. Acute Toxicity Studies with Insect Attractants. Toxicology and Applied Pharmacology 31:421-429*; MRID 449063-04). This data was accepted and reviewed. In this article, eight insect attractants (including Trimedlure) were tested for acute oral toxicity, acute dermal toxicity, acute inhalation toxicity, primary eye irritation, and primary dermal irritation generally according to Subdivision M Guidelines 152-10 through 152-14. No DERs were written for these studies. All acute toxicity data are summarized in Table II.

Table II. Acute Toxicity Data:

GUIDELINE NO.	STUDY	RESULTS	MRID NO.
TIER I			
152-10	Acute oral toxicity	Rat LD50 = 4556 mg/kg Toxicity Category III	449063-04

GUIDELINE NO.	STUDY	RESULTS	MRID NO.
152-11	Acute dermal toxicity	Rat LD50 >2025 mg/kg Toxicity Category III	449063-04
152-12	Acute inhalation toxicity	Rat LD50 >2.9 mg/L Toxicity Category IV	449063-04
152-13	Primary eye irritation	Rabbit dosed with 0.1 mL: Eye irritation symptoms cleared within 24 hours. Toxicity Category IV	449063-04
152-14	Primary dermal irritation	Rabbit dosed with 0.5 mL: Mild irritation symptoms cleared within 24 hours. Toxicity Category IV	449063-04

Arthropod pheromones such as Trimedlure, are naturally occurring, and have a non-toxic and target specific mode of action. They are generally effective at very low rates and are used in point source application, such as polymeric, retrievable dispensers. As a result, based on the demonstrated low toxicity and minimal exposure, the Agency waived the requirements for subchronic studies (90-day oral, dermal and inhalation), immunotoxicity, and developmental toxicity studies for this pheromone. Moreover, data have been submitted for subchronic studies done on compounds similar in structure to the arthropod pheromones, and published in peer-reviewed, scientific literature. The findings of the published studies indicated that there were no significant health effects from subchronic exposure to this group of compounds.

2. Dose Response Assessment

Based on the available information and data regarding this pheromone, no end points were identified.

3. Dietary Exposure and Risk Characterization

Trimedlure demonstrates low acute toxicity (Table II). Data from subchronic toxicology studies evaluating compounds similar in structure to the arthropod pheromones such as 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester, have been published in the peer-reviewed, public literature and were submitted for review. The results indicated that there were no significant signs of toxicity in rats. Moreover, restricting the use of Trimedlure to retrievably sized dispensers, will significantly limit the possibility of dietary exposure to the active ingredient.

Based on the results from the previously submitted mammalian toxicology studies, which demonstrate low, if any, toxicity, and since adequate data exist in the public domain, no additional data other information is required to support the registration 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester.

4. Occupational and Residential Exposure

a. Occupational Exposure and Risk Characterization

Based on the application methods for Trimedlure products (i.e., polymeric-matrix dispensers in traps and lures), the potential for dermal, eye, and inhalation exposures to the pesticide may exist for pesticide handlers and applicators. Because of a low acute toxicity, worker exposure data on 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester are not required. However, due to the potential for eye and dermal irritation, the Agency will require the appropriate signal word and precautionary statements to mitigate any risk of irritation from exposure via both of these routes.

b. Residential, School and Daycare Exposure and Risk Characterization

No indoor residential, school, or daycare uses currently appear on the label. Although accidental, nondietary exposure to sites where children are present cannot be ruled out, any potential health risk is expected to be minimal based on low mammalian toxicity, insignificant exposure due to high volatility of the compound, enclosure within traps and lures, and a history of safe use of related compounds.

5. Drinking Water Exposure and Risk Characterization

No significant exposure is expected from an accumulation of 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester in the aquatic environment when used according to the precautionary label language.

6. Acute and Dietary Risks for Sensitive Subpopulations, Particularly Infants and Children

The Agency has concluded that pheromone residues are not a dietary hazard to the general population, including infants and children. This decision was based on: low acute and subchronic mammalian toxicity, the known metabolism, and the history of safe use of similar arthropod pheromones. For food uses of certain arthropod pheromones, the toxicity and residue data have allowed for the conclusion that an exemption from the requirement of a tolerance is appropriate and adequate to protect human health (see 40 CFR 180.1124).

7. Aggregate Exposure from Multiple Routes Including Dermal, Oral and Inhalation

The general population may be exposed to naturally occurring pheromones. Laboratory studies have indicated that there is a potential for pheromone residues to occur naturally in food crops because of the fact that these substances are produced by insects in the environment. But a field study with a

sprayable bead formulation of similar pheromones demonstrated that the expected residue levels found in fruits are several orders of magnitude lower than previously calculated estimates. The processes of application, weathering, and other environmental degradation lead to a reduction in the active ingredient that approaches the limit of detection in the expected 3-week lifetime of the raw agricultural product.

Trimedlure is a synthetic compound that mimics naturally occurring pheromones of insect origin, and acts by a non-toxic mode of action to target pests. BPPD has concluded that aggregate exposure to this pheromone over a lifetime will not pose appreciable risks to human health. Moreover, the toxicity and exposure data are sufficiently complete to adequately address the potential for additional sensitivity of infants and children to residues of 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester. The Agency concludes that there is reasonable certainty of no harm to infants and children from aggregate exposure to residues of 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester.

C. ENVIRONMENTAL ASSESSMENT

1. Ecological Effects Hazard Assessment

Trimedlure is an arthropod pheromone which will be used in retrievably sized polymeric matrix dispensers. The Agency recognizes that this use will limit exposure, and that the low toxicity of this compound will limit the possibility of adverse ecological effects resulting from the use of Trimedlure. As a result, no environmental effects data were deemed necessary for hazard identification, and were therefore waived. Moreover, the Agency has reviewed and evaluated publically available ecotoxicity data for a number of chemically similar arthropod pheromones, and published the following ecotoxicity findings for pheromones in the Federal Register (59 FR 3681; January 26, 1994): high toxicity to aquatic invertebrates and moderate toxicity to fish, but practically no toxicity to birds (low toxicity to bobwhite quail, with an acute oral LD₅₀ of >2,000 mg/kg of body weight and dietary LC₅₀ of >5,000 mg/kg).

In addition to waiver requests for ecological effects, the registrant submitted a technical journal article (Beroza, M. et al. 1975. *Acute Toxicity Studies with Insect Attractants. Toxicology and Applied Pharmacology* 31:421-429; MRID 449063-04). In this article, which was accepted and reviewed by BPPD, eight insect attractants (including 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester) were tested for freshwater fish toxicity, generally in accordance with Subdivision M Guideline 154-8. No DER was written for this study, but a copy of the article is part of the record for this active ingredient. All fish toxicity data are summarized in the table below.

Table III. Fish Toxicity Data:

Species	Trimedlure LC ₅₀ Data (ppm)			Toxicity Category
	24-hour	48-Hour	96-Hour	
Rainbow Trout	11.5	11.0	9.6	Slightly toxic
Bluegill Sunfish	14.7	14.7	12.1	Slightly toxic

From this study, BPPD concluded that 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester is slightly toxic to fish.

2. Environmental Fate and Ground Water Data

Exposure assessments on this type of product (biochemical pesticide) are not performed unless significant human health or ecological effects issues arise in the Tier I studies for either of these disciplines (40 CFR §158.690 (c) and (d)). Since Tier II studies were not triggered, there is no requirement for environmental fate data.

3. Ecological Exposure and Risk Characterization

Trimedlure mimics a naturally occurring compound, and has a target specific non-toxic mode of action. As a result, and based on its low toxicity, the use of Trimedlure in dispensers is unlikely to result in any unreasonable adverse effects in avian, aquatic, or insect species. The subject pheromone will be used in retrievably sized polymeric matrix dispensers within the trap, which will significantly limit the possibility of exposure to birds, fish, nontarget insects, and aquatic organisms.

Mitigating label language will further reduce the risk to aquatic organisms. The precautionary labeling of end-use products stipulates: "Keep out of lakes, ponds, and streams. Do not contaminate water by disposal of wastes," for the dispensers, and "Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of wastes," for the sprayable bead formulations.

Table IV. Non-Target Toxicity Data - Tier I Guideline Requirements for Trimedlure:

Guideline No.	Study	Result	MRID
154-6	Avian acute oral	Waived	NA
154-7	Avian dietary	Waived	NA
154-8	Freshwater fish LC ₅₀	Waived	NA

Guideline No.	Study	Result	MRID
154-9	Freshwater invertebrate LC ₅₀	Waived	NA

D. EFFICACY DATA

No efficacy data were required to be submitted to the Agency, since no public health uses are involved.

IV. RISK MANAGEMENT DECISION

A. DETERMINATION OF ELIGIBILITY

Section 3(c)(5) of FIFRA provides for the registration of new active ingredients if it is determined that (A) its composition is such as to warrant the proposed claims for it; (B) its labeling and other materials required to be submitted comply with the requirements of FIFRA; (C) it will perform its intended function without unreasonable adverse effects on the environment; and (D) when used in accordance with widespread and commonly recognized practice, it will not generally cause unreasonable adverse effects on the environment.

To satisfy criteria “A” above, 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester is similar in composition to other registered arthropod pheromones products, and is therefore expected to function as the label suggests. Pheromones are suitable alternatives to other more toxic arthropod pest control products. Criteria “B” is satisfied by the current label and by the data submitted, as presented this document. It is believed that the 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester will not cause any unreasonable adverse effects, is an effective biochemical insecticide for arthropod pests, and does provide protection as claimed satisfying criteria “C”. Criteria “D” is satisfied in that the pesticide is not expected to cause unreasonable adverse effects when used in traps as described in the label. Therefore, 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester technical pheromone is eligible for registration. The technical compound will be formulated into end-use products in polymeric-matrix removable dispensers, either as a single active ingredient product or in conjunction with other pheromone active ingredients, to be used in agricultural sites.

B. REGULATORY POSITION

1. Conditional/Unconditional Registration

Based on the data submitted, BPPD recommends that 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester pheromone is eligible for registration under Section 3(c)(5) of FIFRA. BPPD foresees no unreasonable adverse effects to human health or the environment from the use of the pheromone at rates not to exceed 150 gms a.i./acre/year.

2. Tolerance Reassessment

The existing tolerance exemption for arthropod pheromones (40 CFR 180.1124) is applicable to 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester technical pheromone when used in retrievably sized polymeric matrix dispensers, and at a rate not to exceed 150 grams active ingredient per acre per year in accordance with good agricultural practices

3. Codex Harmonization

There are no Codex harmonization considerations since there is currently no Codex tolerance for 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester pheromone residues.

4. Nonfood Re/Registrations

There are no nonfood issues at this time.

5. Risk Mitigation

Since there are no risk issues, mitigation measures are not required at this time for dietary risk, residential risk, risks to nontarget organisms (plants and wildlife), or ground water contamination for this a.i. Risk from occupational exposure and to aquatic organisms will be mitigated by appropriate label precautions.

6. Endangered Species Statement

The Agency recognizes that the use of Trimedlure will cause no effect to endangered species because of 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester's low toxicity, expected low exposure scenario (use in solid matrix dispensers), and target species specificity.

C. LABELING RATIONALE

It is the Agency's position that the labeling for Trimedlure Technical Pheromone containing 95% of 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester complies with the current pesticide labeling requirements.

1. Human Health Hazard

a. Worker Protection Standard

This product does not come under the provisions of the Worker Protection Standards (WPS).

b. Non-Worker Protection Standard

There are no non-WPS human health hazard issues.

c. Precautionary Labeling

The Agency has examined the toxicological data base for 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester product and concluded that the proposed precautionary labeling (i.e. Signal Word, Statement of Practical Treatment and other label statements) adequately mitigates the risks associated with the proposed uses.

End-Use Product Precautionary Labeling: For Trimedlure Technical Grade, "CAUTION." May cause skin and eye irritation. Avoid contact with skin, eyes or clothing. Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing vapors.

d. Spray Drift Advisory

No spray drift advisory statement is necessary for this use.

2. Environmental Hazards Labeling

End-Use Product Environmental Hazards Labeling: "Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance contact you State Water Board or Regional Office of the EPA. Do not contaminate water by cleaning of equipment or disposal of waste.

3. Application Rate

Manufacturing use or formulating registered pesticides products only. End-use pheromone products may only be formulated into polymeric -matrix removable dispensers as described in the 40 CFR 180.1124.

D. LABELING

(1) Product name: **Trimedlure Technical Grade**

Active Ingredient:

Isomers of 4-(or 5)chloro-2-methylcyclohexanecarboxylic acid, 1, 1-dimethyl ester 95.00%

Other Ingredients:

5.00%

Total:

100.00%

Signal word is "CAUTION". Eye and skin irritation warning is appropriate.

The product shall contain the following information:

- Product Name
- Ingredient Statement
- Registration Number
- "Keep Out of Reach of Children"
- Signal Word (CAUTION)

V. ACTIONS REQUIRED BY REGISTRANTS

Reports of incidences of adverse effects to humans or domestic animals under FIFRA, Section 6(a)2 and incidents of hypersensitivity under 40 CFR Part 158.690(c), guideline reference number 152-16. There are no data requirements, label changes and other responses necessary for the reregistration of the end-use product since the product is being registered after November 1984 and is, therefore, not subject to reregistration. There are also no existing stocks provisions at this time.

vi. Appendix A

Table 4 lists the use sites for the product. The label for the product is also attached.

Table 4. Registration/Reregistration

<p>Trimedlure Technical Grade</p> <p><u>Use Sites</u> For incorporation into end-use products intended for use in traps to attract and kill fruit flies in infested fruits and nuts orchards and vegetable crops. The technical grade product may also be used alone in traps and lures without further registration requirements, in accordance with 40 CFR 152.25(b).</p>	<p>Official date registered:</p>
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